

FORM PTO-1390 (Modified)
(REV 11-2000)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

09669/013001

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR

10/030322

INTERNATIONAL APPLICATION NO
PCT/FR00/01136INTERNATIONAL FILING DATE
28 April 2000PRIORITY DATE CLAIMED
29 April 1999

TITLE OF INVENTION

METHOD FOR PRODUCING CONTACTLESS CARDS BY MEANS OF ROLLING AND CONTACTLESS CARD
PRODUCED ACCORDING TO SAID METHOD

APPLICANT(S) FOR DO/EO/US

Yann LIMELETTE, Hayat EL YAMANI and Volpe PIERRE

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (24) indicated below.
4. ☐ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
 - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
 - b. ☒ has been communicated by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
 - a. ☒ is attached hereto.
 - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
 - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ have been communicated by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)). (*Unsigned*)
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).
11. ☐ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☒ A copy of the International Search Report (PCT/ISA/210).

Items 13 to 20 below concern document(s) or information included:

13. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☒ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☐ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
20. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
21. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
22. ☒ Certificate of Mailing by Express Mail
23. ☒ Other items or information:

French Search Report (1 pg)
Form PCT/IB/308

22511

PATENT TRADEMARK OFFICE

U.S. APPLICATION NO (IF KNOWN, SEE 37 CFR 1.101) 10/030322		INTERNATIONAL APPLICATION NO PCT/FR00/01136		ATTORNEY'S DOCKET NUMBER 09669/013001	
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24. The following fees are submitted: BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) : <ul style="list-style-type: none"> <input type="checkbox"/> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$1040.00 <input checked="" type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$890.00 <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$740.00 <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$710.00 <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00 				CALCULATIONS PTO USE ONLY <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	
ENTER APPROPRIATE BASIC FEE AMOUNT =				\$890.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492 (e)).				\$0.00	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	6 - 20 =	0	x \$18.00	\$0.00	
Independent claims	2 - 3 =	0	x \$84.00	\$0.00	
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>				\$0.00	
TOTAL OF ABOVE CALCULATIONS =				\$890.00	
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				\$0.00	
SUBTOTAL =				\$890.00	
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492 (f)).				\$0.00	
TOTAL NATIONAL FEE =				\$890.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable) <input type="checkbox"/>				\$0.00	
TOTAL FEES ENCLOSED =				\$890.00	
				Amount to be: refunded \$	
				charged \$	

a. ☒ A check in the amount of **\$890.00** to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. _____ in the amount of _____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. **50-0591** A duplicate copy of this sheet is enclosed.

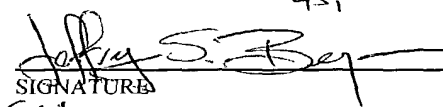
d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

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 REGISTRATION NUMBER
10/26/01
 DATE

JC10 Rec'd PCT/PTO 26 OCT 2001

Applicant : Limelette Yann / ElYamani Hayat / Volpe Pierre Art Unit :
Serial No : Examiner :
Filed : October 26, 2001
Title : METHOD FOR PRODUCING CONTACTLESS CARDS BY MEANS OF
ROLLING AND CONTACTLESS CARD PRODUCED ACCORDING TO
SAID METHOD.

22511
PATENT TRADEMARK OFFICE

Dear Sir:

Before examining the referenced application on the merits, please amend the application as outlined below:

IN THE SPECIFICATION

1. On page 1, line 9, please insert the sub-heading --Field of the Invention-- above the paragraph which begins “The present invention...”
2. On page 1, line 22, please insert the sub-heading --Background of the invention-- above the paragraph that begins “So as to produce...”
3. On page 3, line 25, please insert the sub-heading --Summary of the invention-- above the paragraph begins “Also, having regard to...”
4. On page 4, line 31, please insert the sub-heading --Brief Description of the Drawings-- above the paragraph that begins “figure 1 is an exploded...”
5. On page 5, line 15, please insert the sub-heading --Detailed Description-- above the paragraph that begins “The object of the invention...”
6. On page 9, line 1, please insert --What is claimed is:-- after the heading “CLAIMS.”

IN THE CLAIMS

What is claimed is:

Please amend the claims as outlined below. A marked-up version, illustrating the changes, of the claims is attached as Appendix A.

1. (Amended) A method of producing a portable object in a card format the portable object comprising:

- a body including a plastic support sheet, a plastic incorporation sheet, as well as a first external covering sheet and a second external covering sheet;
- an antenna provided with two antenna terminals, and
- an integrated circuit chip provided with two connection pads, said chip being incorporated in the incorporation sheet, each of said two connection pads being electrically connected to one terminal of the antenna,

said method comprising the following steps:

- the chip is mounted on the support sheet,
- the support sheet on which the chip has been mounted is rolled with the incorporation sheet so as to obtain a first rolled unit in which the chip is incorporated in the incorporation sheet and :

- the first rolled unit is covered with the first and second external covering sheets.

2. (Amended) The method according to claim 1, wherein the support sheet, the incorporation sheet, and the first and second external covering sheets are made of thermoplastic, namely PVC.

3. (Amended) The method according to claim 1, wherein the first covering sheet directly covers the incorporation sheet and in that the second covering sheet directly covers the support sheet.

4. (Amended) The method according to of claim 1, wherein the stage in which the first rolled unit is covered with the first and second external covering sheets is accompanied by a rolling of the first rolled unit with said first and second covering sheets.

5. (Amended) A portable object in a card format comprising:

- an object body including a plastic support sheet, a plastic incorporation sheet, as well as a first external covering sheet and a second external covering sheet;
- an antenna equipped with two antenna terminals; and
- an integrated circuit chip fitted with two connection pads, said chip

being incorporated in the incorporation sheet, each of said connection pads being electrically connected to one antenna terminal,

wherein:

- the first covering sheet directly covers the incorporation sheet and the second covering sheet directly covers the support sheet.

6. (Amended) The portable object according to claim 5, wherein the support sheet, the incorporation sheet and the first and second covering sheets are made of PVC.

REMARKS

The amendments to the specification and the claims are made to conform to the requirements for patent applications in the United States. No new matter was introduced by such amendments. Favorable consideration of this application is respectfully requested.

Please charge any fees, or make any credits, to Deposit Account No. 50-

0591, Reference No. 09669/013001.

Date: 10/26/01

45,925

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APPENDIX A – MARKED-UP VERSION OF THE CLAIMS

1. ~~Method for~~ A method of producing a portable object in a card format and the portable object comprising :

- ~~an object a~~ body including a plastic support sheet (12), a plastic incorporation sheet (18), as well as a first external covering sheet (19) and a second external covering sheet (20);

- an antenna (11) provided with two antenna terminals (13), and

- an integrated circuit chip (14) provided with two connection pads (15), said chip (14) being incorporated in the incorporation sheet (18), each of said two connection pads (15) being electrically connected to one terminal (13) of the antenna,

said method comprising the ~~next stage according to which~~ following steps:

- the chip (14) is mounted on the support sheet (12), and

~~is characterised in that it further comprises the next stages according to~~
which:

- the support sheet (12) on which the chip (14) has been mounted is rolled with the incorporation sheet (18) so as to obtain a first rolled unit in which the chip (14) is incorporated in the incorporation sheet (18), and ~~in a subsequent stage~~ :

- the first rolled unit is covered with the first (19) and second (20) external covering sheets.

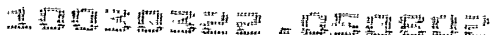
2. ~~Method~~ The method according to claim 1, ~~characterised in that~~ wherein the support sheet (12), the incorporation sheet (18), and the first (19) and second (20) external covering sheets are made of thermoplastic, namely PVC.

3. ~~Method~~ The method according to claim 1 ~~or 2, characterised in that~~ wherein the first covering sheet (19) directly covers the incorporation sheet (18) and in that the second covering sheet (20) directly covers the support sheet (12).

4. ~~Method~~ The method according to ~~one of claims~~ claim 1 ~~2 to 3, characterised in that~~ wherein the stage in which the first rolled unit is covered with the first (19) and second (20) external covering sheets is accompanied by a rolling of the first rolled unit with said first (19) and second (20) covering sheets.

5. ~~Portable~~ A portable object in a ~~rolled~~ card format comprising:

- an object body including a plastic support sheet (12), a plastic incorporation sheet (18), as well as a first external covering sheet (19) and a second



- an antenna (11) equipped with two antenna terminals (13); and
- an integrated circuit chip (14) fitted with two connection pads (15),

said chip (14) being incorporated in the incorporation sheet (18), each of said connection pads (15) being electrically connected to one antenna terminal (13),

- the first covering sheet (19) directly covers the incorporation sheet (18) and in that the second covering sheet (20) directly covers the support sheet (12).

6. ~~Object~~ The portable object according to claim 5, ~~characterised in that wherein~~
the support sheet (12), the incorporation sheet (18) and the first (19) and second (20)
covering sheets are made of PVC.

5. A sealing resin 7 is then deposited at the location of the connections and on the active face of the chip 3.

Then, after having serigraphed a thermoactivable glue on each sheet, the following are superimposed in the following order : a first external coating sheet 8, the second sheet 2 of PC, the support sheet 5 bearing the chip 3 and the antenna 6, a sheet 9 for incorporating this chip 3, the first sheet 1 of PC and a second external coating sheet 10. The sheets 5, 9, 8 and 10 are PVC sheets. This results in obtaining a superimposed unit with the thicknesses of the various sheets being the following :

	- first external coating sheet	: 50
	μm	
	- first PC sheet	: 150 μm
15	- incorporation sheet	: 300 μm
	- support sheet	: 190 μm
	- chip	: 260 μm
	- second PC sheet	: 150 μm
	- second external coating sheet	: 50 μm

20 This unit is then subjected to a first and then second hot rolling according to defined temperature and pressure cycles. In particular, the first rolling, carried out at a temperature of about 140°C, is intended to glue the sheets making up the unit via activation of the thermoactivable glue and to ensure that the chips 3 are incorporated in the incorporation sheet 9, and the second rolling carried out similarly at a temperature of about 140°C, is intended to improve firstly adherence between the various sheets of the unit, and secondly the surface condition of said unit.

30 Then the rolled unit is cut and finally portable objects with a card format are obtained as defined in the standard ISO 7816-1, that is with a thickness of about 0.760

mm, a length 85 mm and a width of about 54 mm.

However, the method described above has certain drawbacks.

5 It requires the presence of two main thermoplastic materials : PC and PVC. Now, the vitreous transition temperature of the PC, which is about 150°C, is higher than the vitreous transition temperature of PVC which is only about 70°C. Thus, the PC does not reach its vitreous transition temperature during the first and second rollings.
10 This is why it is necessary to glue the various sheets together using a glue.

Moreover, control of the offset printing of the PC is imperfect, as with the cutting of this plastic material, originating from imperfections of cards.

15 Of course, so as to mitigate the drawbacks of the method described above, it has been considered replacing the PC sheets by PVC sheets. However, the cards then obtained would have exhibited on their surface and on the vertical line above and below the chip appearance defects consisting
20 of the presence of white traces due at these locations to a polymerisation/depolymerisation of the PVC of the various sheets of the rolled unit and in particular of the covering sheets in specific conditions differing from conditions existing in the rest of the card body.

25 Also, having regard to the above, a problem which the invention seeks to resolve consists of embodying a method for producing a portable object with a card format comprising :

- 30 • an object body comprising a plastic support sheet, a plastic incorporation sheet, as well as a first and a second external covering sheet ;
- an antenna provided with two antenna terminals,

and

- an integrated circuit chip provided with two connection pads, said chip being incorporated in the incorporation sheet, each of said connection pads being electrically connected to one antenna terminal,

said method comprising a next stage according to which

:

- the chip is mounted on the support sheet,
- a method which mitigates the above drawbacks and in particular makes it possible to avoid using PC but without the cards obtained having appearance defects.

In the light of this problem, the solution of the invention consists of providing a method of said type characterised in that it comprises the following stages according to which:

- the support sheet is rolled on which the chip is mounted with the incorporation sheet so as to obtain a first rolled unit in which the chip is incorporated in the incorporation sheet, and in a subsequent stage,

- the first rolled unit is covered with the first and second recovering sheets.

Thus, by proceeding in two stages with the obtaining of a first PVC rolled unit and then by covering this first unit with covering sheets, it is possible to use solely a given plastic for the production of the sheets of the portable object in a card format and in particular to avoid using PC but without the card having appearance defects.

The following non-restrictive description clearly shows how the invention can be used in practice with reference to the accompanying drawings on which :

- figure 1 is an exploded cross-sectional view showing a method for producing a card according to the prior

art ;

- figure 2 is a cross-sectional view showing a card obtained according to a method of the prior art,

- figure 3 is a cross-sectional view showing a rolling stage of a method for producing a card according to the invention ;

- figure 4 is a cross-sectional view showing the first unit obtained according to the rolling stage of the invention ;

- figure 5 is an exploded cross-sectional view showing a stage for rolling the first unit with the covering sheets of the invention, and

- figure 6 is a cross-sectional view showing a card obtained according to the method of the invention.

The object of the invention is to provide portable chip objects in a card format. These objects are in particular defined in the standards ISO7810, ISO7816, in the tentative standard ISO14443 and in the standards ETSI/GSM11.11 and ESTI/GSM11.14 whose contents are integrated in the present document by way of reference.

The production of these objects is advantageously implemented on large sheets. For example, the width of these sheets is about 22 cm and their length is about 32 cm. Thus, it is possible to quickly obtain, after cutting, a large number of cards. In said example, this number is about 10.

However, so as to facilitate reading of the following description, the invention is described basically with regard to the production of a single card.

According to the invention, so as to produce one card, an antenna 11 is serigraphed on the surface of a support sheet 12.

The support sheet 12 is plastic, in particular

thermoplastic, and advantageously made of PVC with a vitreous transition temperature of about 70°C and having a thickness of about 190 μm .

5 The antenna 11 appears in the form of a spiral of three spires of an epoxy-based conductive ink charged with silver and whose extremities constitute two terminals 13 situated close to each other.

10 In a subsequent stage, an integrated circuit chip 14 is mounted on the terminals 13 of the antenna 11 so as to connect contact pads 15 of said chip 14 to the terminals 13 of the antenna 11.

15 The shape of this chip 14 is approximately parallelepiped and rectangular with a thickness of 260 μm with sides of 2 mm. It comprises an active face provided with at least two contact pads 15. These pads 15 are provided with protuberances 16 or bumps made of a thermoplastic or duroplastic conductive polymer, such as an epoxy-based polymer charged with silver.

20 A sealing resin 17 is deposited in liquid form onto one side of the chip 14 corresponding to its active face. This sealing resin migrates via capillar action under the chip 14, coats the connection elements, that is the contact pads 15, the protuberances 16 and the terminals 13 of the antenna 11, and seals the chip 14 to the support sheet 12.

25 Afterwards, as shown on figure 3, an incorporation sheet 18 is superimposed on the support sheet 12 on which the chip 14 has been mounted. This sheet 18 is a plastic sheet, especially thermoplastic and advantageously a thermoplastic having a low vitreous transition temperature.
30 This in particular is made of PVC whose vitreous transition temperature is about 70°C.

According to the invention, the superimposed unit

obtained is rolled at a temperature of about 140°C and under pressure according to a specific cycle. For example, the unit is subjected to a temperature of 140°C and a pressure of 10 bars for 10 minutes, then the pressure is increased for 7 minutes until reaching 100 bars when said pressure is stabilised for 4 minutes. The temperature is then lowered to 20°C and the unit is subjected to a pressure of 200 bars for 18 minutes.

Figure 4 shows the first rolled unit obtained. In this first unit, the chip 14 is incorporated with the incorporation sheet 18, said sheet 18 in fact having been subjected to temperature and pressure conditions so that it has undergone melting enabling said chip 14 to be integrated. This first rolled unit is called an inlet. It can be stored and handled without risking damaging the chip 14 or the antenna 11, these elements being fully embedded in said unit.

In another stage of the invention, a first covering sheet 19 and a second covering sheet 20 are offset printed in four colours and in inverted images, the first sheet 19 front side and the second 20 rear side. These sheets 19, 20 are plastic and in particular thermoplastic and advantageously are made of PVC having a thickness of about 50 μm .

As shown on figure 5, the first rolled unit is then covered with two covering sheets 19, 20. The first sheet 19 directly covers the incorporation sheet 18 and the second sheet 20 directly covers the support sheet 12, the printed sides of said sheets 19, 20 being in contact with said sheets 18, 12 respectively. This stage of the invention in, which the first unit is covered can advantageously be accompanied by a second rolling of said first unit with the

sheets 19, 20. This second rolling is carried out according to a temperature and pressure cycle of said type allowing the welding of the two covering sheets with the first rolled unit. In practice, the temperature reached during this cycle is about 140°C.

Thus, a second rolled unit is obtained which can be cut to a card format.

The cards obtained in fact only comprise four main thicknesses constituted by the sheets 19, 12, 18 and 20, a chip being borne by the sheet 12 and incorporated in the sheet 18. All these thicknesses are advantageously constituted by the same plastic material, namely PVC.

CLAIMS

1. Method for producing a portable object in a card
5 format and comprising :

- an object body including a plastic support sheet (12), a plastic incorporation sheet (18), as well as a first external covering sheet (19) and a second external covering sheet (20);

10 • an antenna (11) provided with two antenna terminals (13), and

- an integrated circuit chip (14) provided with two connection pads (15), said chip (14) being incorporated in the incorporation sheet (18), each of said two connection
15 pads (15) being electrically connected to one terminal (13) of the antenna,

said method comprising the next stage according to which :

- the chip (14) is mounted on the support sheet
20 (12), and

is characterised in that it further comprises the next stages according to which :

- the support sheet (12) on which the chip (14) has been mounted is rolled with the incorporation sheet (18) so as to obtain a first rolled unit in which the chip (14) is incorporated in the incorporation sheet (18), and in a
25 subsequent stage :

- the first rolled unit is covered with the first (19) and second (20) external covering sheets.

30 2. Method according to claim 1, characterised in that the support sheet (12), the incorporation sheet (18), and the first (19) and second (20) external covering sheets are

made of thermoplastic, namely PVC.

3. Method according to claim 1 or 2, characterised in that the first covering sheet (19) directly covers the incorporation sheet (18) and in that the second covering sheet (20) directly covers the support sheet (12).

4. Method according to one of claims 1 2 to 3, characterised in that the stage in which the first rolled unit is covered with the first (19) and second (20) external covering sheets is accompanied by a rolling of the first rolled unit with said first (19) and second (20) covering sheets.

5. Portable object in a rolled card format comprising :

- an object body including a plastic support sheet (12), a plastic incorporation sheet (18), as well as a first external covering sheet (19) and a second external covering sheet (20);

- an antenna (11) equipped with two antenna terminals (13); and

- an integrated circuit chip (14) fitted with two connection pads (15), said chip (14) being incorporated in the incorporation sheet (18), each of said connection pads (15) being electrically connected to one antenna terminal (13),

characterised in that it further comprises :

- the first covering sheet (19) directly covers the incorporation sheet (18) and in that the second covering sheet (20) directly covers the support sheet (12).

6. Object according to claim 5, characterised in that the support sheet (12), the incorporation sheet (18) and the first (19) and second (20) covering sheets are made of PVC.

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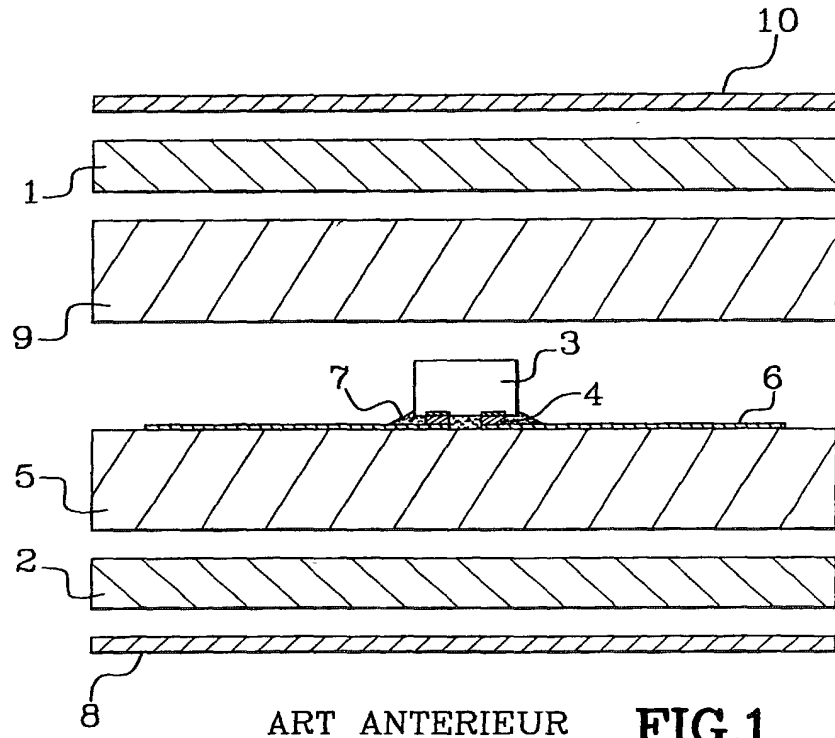


FIG.1

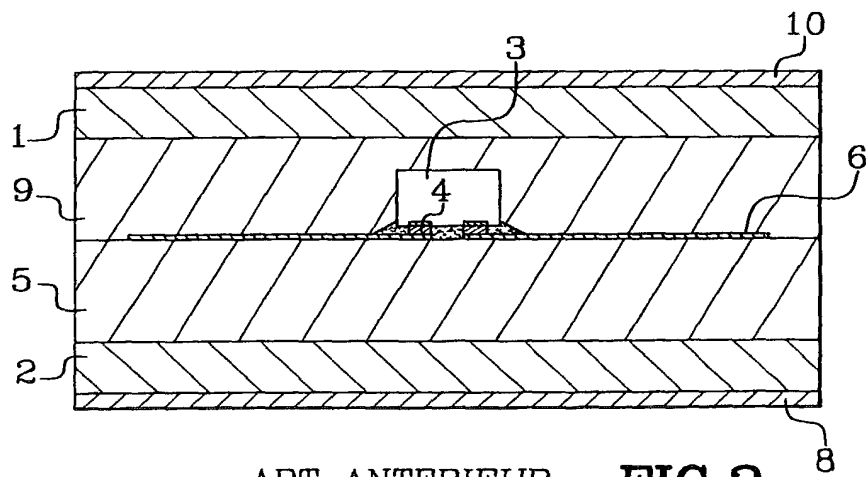


FIG.2

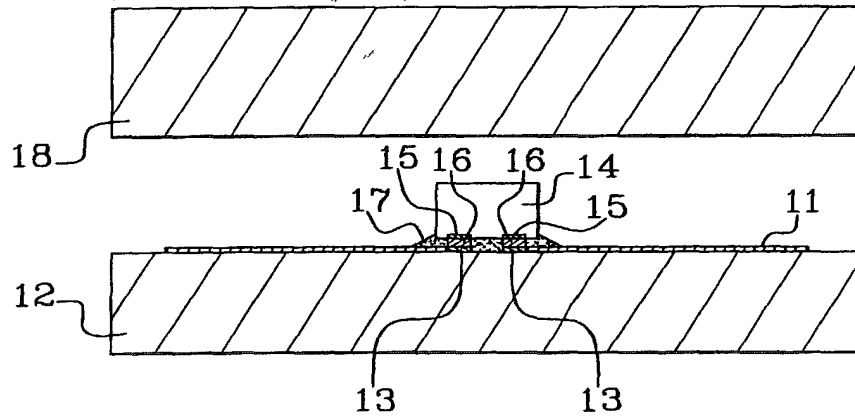


FIG. 3

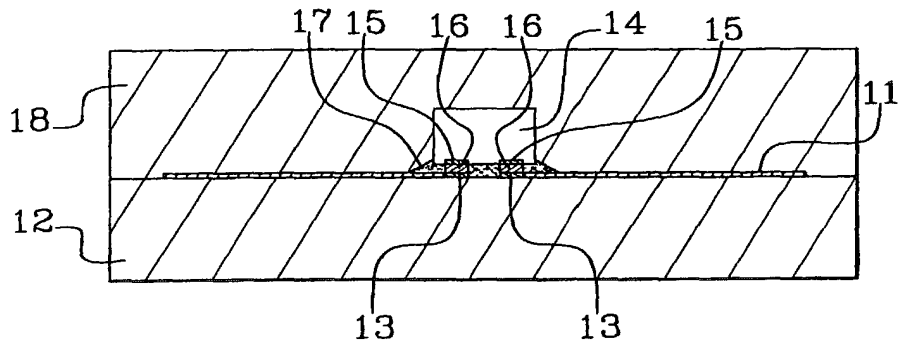


FIG. 4

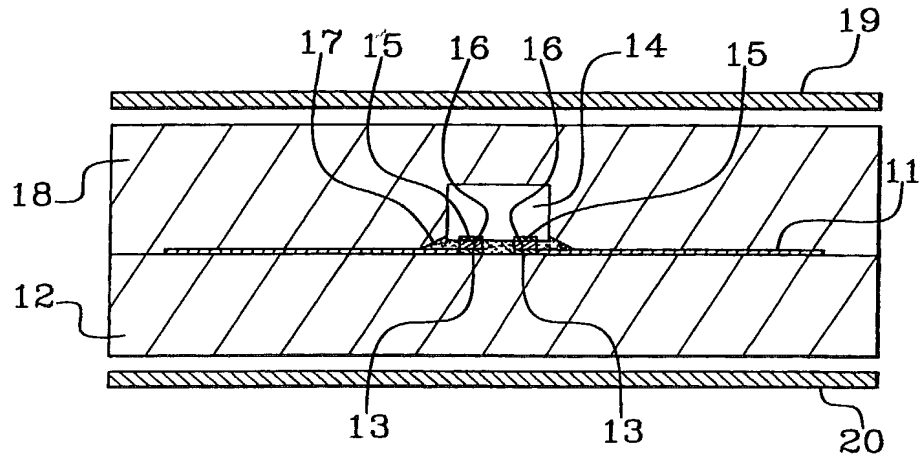


FIG. 5

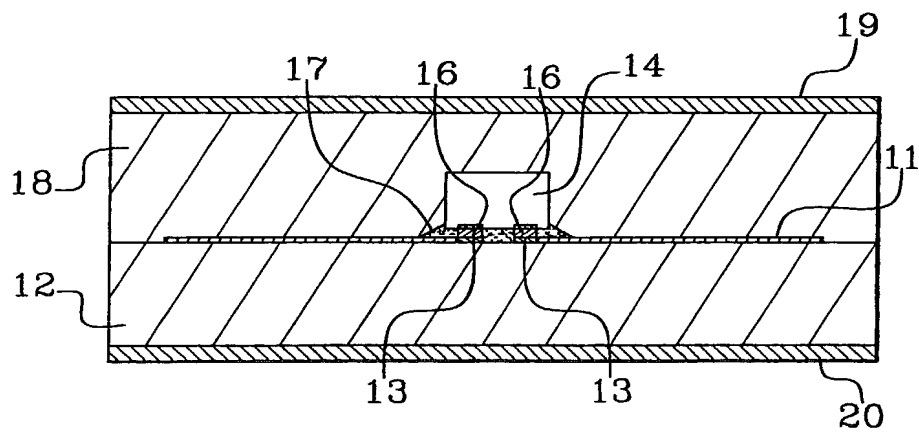


FIG. 6

PCT

ORGANISATION MONDIALE DE LA PROPRIÉTÉ INTELLECTUELLE
Bureau international

DEMANDE INTERNATIONALE PUBLIÉE EN VERTU DU TRAITE DE COOPERATION EN MATIÈRE DE BREVETS (PCT)

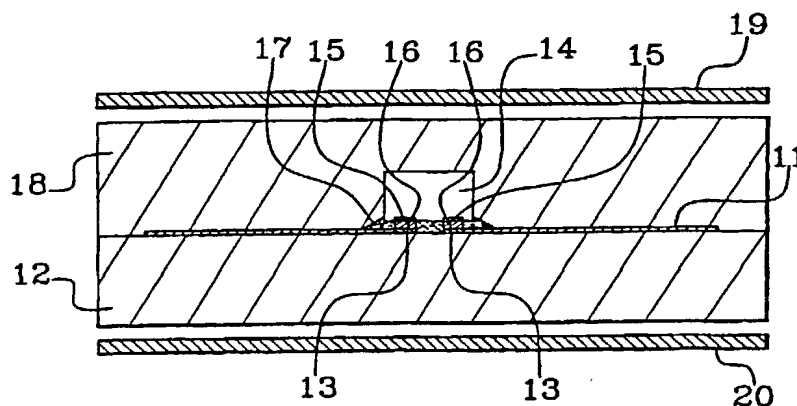
(51) Classification internationale des brevets ⁷ : G06K 19/077	A1	(11) Numéro de publication internationale: WO 00/67199 (43) Date de publication internationale: 9 novembre 2000 (09.11.00)
(21) Numéro de la demande internationale: PCT/FR00/01136 (22) Date de dépôt international: 28 avril 2000 (28.04.00) (30) Données relatives à la priorité: 99/05479 29 avril 1999 (29.04.99) FR (71) Déposant (pour tous les Etats désignés sauf US): SCHLUMBERGER SYSTEMES [FR/FR]; 50, avenue Jean Jaurès, F-92120 Montrouge (FR). (72) Inventeurs; et (75) Inventeurs/Déposants (US seulement): LIMELETTE, Yann [FR/FR]; 160, rue Joachim du Bellay, F-45430 Mardie (FR). EL YAMANI, Hayat [FR/FR]; 18, rue Henri Trisard, F-94240 L'Hay les Roses (FR). VOLPE, Pierre [FR/FR]; 19, rue des Moulins, F-45430 Mardie (FR). (74) Mandataire: MACQUET, Christophe; Schlumberger Systemes, Test & Transactions, 50, avenue Jean Jaurès, Boîte postale 620-12, F-92542 Montrouge Cedex (FR).		(81) Etats désignés: BR, CN, JP, US, brevet européen (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Publiée <i>Avec rapport de recherche internationale. Avant l'expiration du délai prévu pour la modification des revendications, sera republiée si des modifications sont reçues.</i>

(54) Title: METHOD FOR MAKING CONTACTLESS CARDS BY LAMINATION AND CONTACTLESS CARD OBTAINED BY SAID METHOD

(54) Titre: PROCEDE DE FABRICATION DE CARTES SANS CONTACT PAR LAMINAGE ET CARTE SANS CONTACT FABRIQUEE SELON UN TEL PROCEDE

(57) Abstract

The invention concerns a method for making a portable object with card format comprising: an object body including a plastic support sheet (12), a plastic incorporating sheet (18) and first (19) and second (20) external covering sheets; an antenna (11) provided with two antenna terminals (13); and an integrated circuit chip (14) incorporated in the incorporating sheet (18), and electrically connected to the antenna. The inventive method is characterised in that it comprises steps which consist in: laminating the support sheet (12), whereon the chip (14), with the incorporating sheet (18) has been transferred so as to obtain a first laminated assembly; and in a subsequent step: covering the first laminated assembly with the first (19) and second (20) external covering sheets. The invention is particularly useful for making contactless cards by hot lamination.



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OR

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Attorney Docket Number	09669/013001
First Named Inventor	LIMELETTE Yann
COMPLETE IF KNOWN	
Application Number	10 / 030,322
Filing Date	October 26, 2001
Group Art Unit	
Examiner Name	

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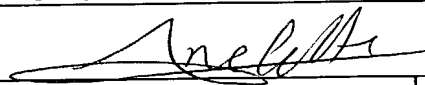
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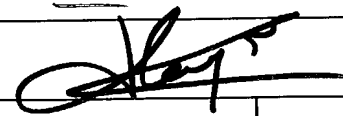
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Family Name
or Surname

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Inventor's
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Date

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☒ Additional inventors are being named on the 1 supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto.

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DECLARATION

ADDITIONAL INVENTOR(S)
Supplemental Sheet
Page 1 of 1

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Application Number	10/030,322
Filing Date	October 26, 2001
First Named Inventor	Pierre VOLPE
Title	Method for producing.....
Group Art Unit	
Examiner Name	
Attorney Docket Number	09669/013001

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☐ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).

SIGNATURE of Applicant or Assignee of Record

Name	Pierre VOLPE
Signature	
Date	25/6/2001

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☒ *Total of 3 forms are submitted.

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Application Number	10/030,322
Filing Date	October 26, 2001
First Named Inventor	Hayat EL YAMANI
Title	Method for producing.....
Group Art Unit	
Examiner Name	
Attorney Docket Number	09669/013001

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Name

Hayat EL YAMANI

Signature

Date

21.09.01

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Application Number	10/030,322
Filing Date	October 26, 2001
First Named Inventor	Yann LIMELETTE
Title	Method for producing.....
Group Art Unit	
Examiner Name	
Attorney Docket Number	09669/013001

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SIGNATURE of Applicant or Assignee of Record

Name

Yann LIMELETTE

Signature

Date

87/10/02

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